Railroad Cross-Ties.

No. 214,208. Patented April 8, 1879.

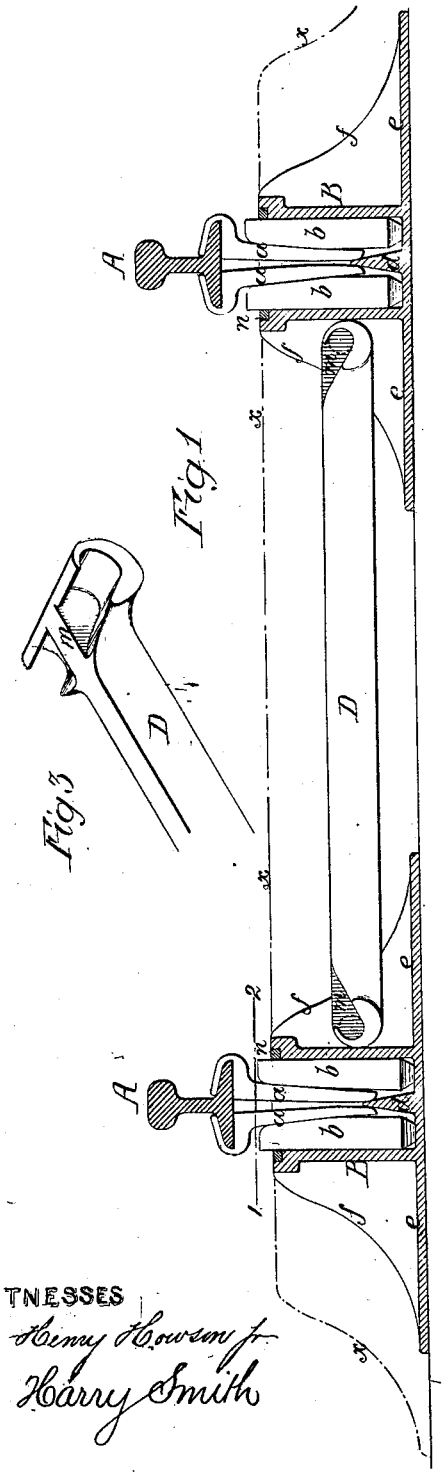

Fig. 1

Fig. 3

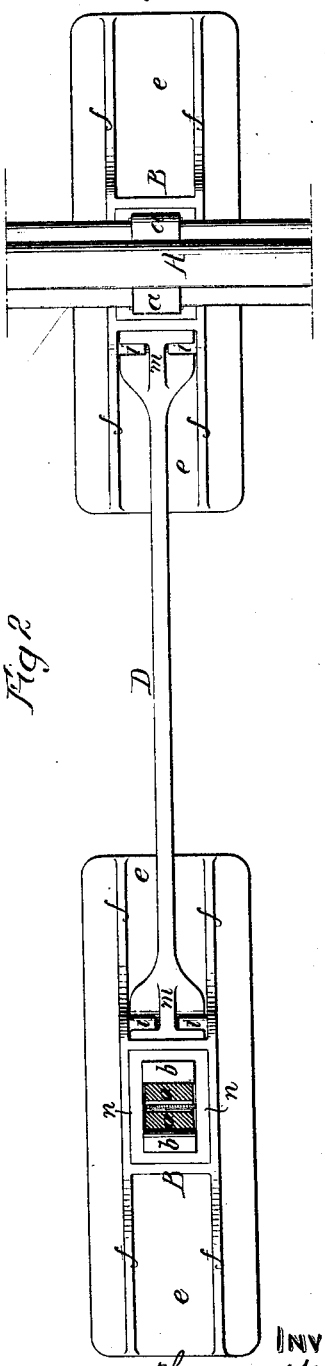

Fig. 2

WITNESSES

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UNITED STATES PATENT OFFICE.

THOMAS W. TRAVIS, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN RAILROAD CROSS-TIES.

Specification forming part of Letters Patent No. **214,208**, dated April 8, 1879; application filed March 6, 1879.

To all whom it may concern:

Be it known that I, THOMAS W. TRAVIS, of Philadelphia, Pennsylvania, have invented a new and useful Improvement in Railroad Cross-Ties, of which the following is a specification.

My invention relates to certain improvements especially applicable to the rail support and fastening for which Letters Patent No. 202,607 were granted to me on the 30th day of July, A. D. 1878, the objects of my improvements being to strengthen the boxes which contain the rail-supporting blocks, and to so connect said boxes together that, while they are always firmly retained at the proper distance apart, each box can yield vertically to a limited extent independently of the other. These objects I attain in the manner which I will now proceed to describe, reference being had to the accompanying drawings, in which—

Figure 1 is a transverse section of a railroad-track with cross-tie constructed according to my invention; Fig. 2, a plan view of the same, partly in section, on the line 1 2; and Fig. 3, a perspective view of part of the device.

A A are the opposite rails of the track, each of which is clamped by a pair of jaws, *a*, the latter resting upon wooden blocks *b*, and having arms, which are acted upon by a wedge, *d*, at the bottom of a box, B, as in the former patent. Instead of the boxes B being formed in the ends of a cast-iron cross-tie, however, as in said patent, each box is, in the present instance, an independent structure, the boxes being connected to each other by a transverse tie-bar, D, the opposite ends of which are hooked for attachment to the boxes.

In order to insure a proper bearing upon the ground, each box B has a broad flat base, *e;* and to strengthen the box and impart the proper rigidity to the same, a vertical rib, *f*, extends from the base *e* to the top of the box, at each corner of the same. The two ribs *f* on the inner side of each bar have inwardly-projecting pins *i*, which are adapted to the adjacent hooked end of the tie-bar D, and serve to connect the same to the box, the use of two pins instead of a single pin permitting the employment of a central strengthening-web, *m*, on each hook.

The upper edge of each box B is recessed for the reception of a ring, *n*, of steel or wrought-iron, the object of which is to strengthen the box and prevent the lateral disruption of the same if the blocks *b* are subjected to undue strain, or if there is a flaw in the casting of which the box is composed.

By making the boxes B B independent of each other and connecting them together by means of the hooked tie-bar D, each box is at liberty to yield vertically to a limited extent without affecting the other, and without that injurious straining which results when the boxes are formed in a rigid cast-iron tie.

The pair of boxes and the tie-bar, moreover, are lighter and cheaper than the cast-iron cross-tie, and can be stored in smaller space and transported at less expense than such a tie.

It should be understood that the track is ballasted up to the dotted line *x*, Fig. 1, so that the boxes B are firmly embedded in the ballast, and thereby prevented from moving laterally or longitudinally.

I claim as my invention—

1. The combination of the rail-carrying boxes B B, each having a pin or pins, *i*, with the transverse tie-bar D, having its ends adapted to the pins, so as to permit the boxes to yield vertically independently of each other, as set forth.

2. The combination of the boxes B B, each having two pins, *i i*, with the tie-bar D, having at each end a hook with central strengthening-web, *m*, as specified.

3. The combination of the box B, having rail supporting and clamping devices, with the strengthening ring or band, *n*, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOMAS W. TRAVIS.

Witnesses:

WILLIAM J. COOPER,

HARRY SMITH.